UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/706,728	11/12/2003	Oscar del Rio Herrero	033339/271350	7260

826   7590   07/24/2007
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EXAMINER
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ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
07/24/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.		Applicant(s)	
Office Action Summary	10/706,728		RIO HERRERO ET AL.	
	Examiner		Art Unit	
	Suk Jin Kang		2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>12 November 2003</u>.

2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-9</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-9</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☒ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>12 November 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☒ All   b) ☐ Some * c) ☐ None of:

      1. ☒ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>11/12/03</u>.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Priority

1.   Receipt is acknowledged of a certified copy of the French Patent Application #

0214637 referred to in the oath or declaration or in an application data sheet. If this

copy is being filed to obtain the benefits of the foreign filing date under 35 U.S.C.

119(a)-(d), applicant should also file a claim for such priority as required by 35 U.S.C.

119(b). If the application being examined is an original application filed under 35 U.S.C.

111(a) (other than a design application) on or after November 29, 2000, the claim for

priority must be presented during the pendency of the application, and within the later of

four months from the actual filing date of the application or sixteen months from the

filing date of the prior foreign application. See 37 CFR 1.55(a)(1)(i). If the application

being examined has entered the national stage from an international application filed on

or after November 29, 2000, after compliance with 35 U.S.C. 371, the claim for priority

must be made during the pendency of the application and within the time limit set forth

in the PCT and Regulations of the PCT. See 37 CFR 1.55(a)(1)(ii). Any claim for

priority under 35 U.S.C. 119(a)-(d) or (f) or 365(a) or (b) not presented within the time

period set forth in 37 CFR 1.55(a)(1) is considered to have been waived. If a claim for

foreign priority is presented after the time period set forth in 37 CFR 1.55(a)(1), the

claim may be accepted if the claim properly identifies the prior foreign application and is

accompanied by a grantable petition to accept an unintentionally delayed claim for

priority. See 37 CFR 1.55(c).

Information Disclosure Statement

2.   The information disclosure statement has submitted on November 12, 2003 has

been considered by the Examiner and made of record in the application.

Specification

3.   The abstract of the disclosure is objected to because of the reasons described

below. Correction is required. See MPEP § 608.01(b).

Applicant is reminded of the proper language and format for an abstract of the

disclosure. The abstract should be in narrative form and generally limited to a single

paragraph on a separate sheet within the range of 50 to 150 words. It is important that

the abstract not exceed 150 words in length since the space provided for the abstract

on the computer tape used by the printer is limited. The form and legal phraseology

often used in patent claims, such as "means" and "said," should be avoided. The

abstract should describe the disclosure sufficiently to assist readers in deciding whether

there is a need for consulting the full patent text for details.

Claim Objections

4.   **Claim 1** is objected to because of the following informalities:

a) On line 33 of claim 1, replace "n" with --n-- after "corresponding";

For purposes of applying prior art, all claims above will be read with the suggested

corrections made to the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

6.   **Claims 1, 4, and 9** are rejected under 35 U.S.C. 112, second paragraph, as

being indefinite for failing to particularly point out and distinctly claim the subject matter

which applicant regards as the invention.

Claim 1 recites the limitation "the output headers" in line 24. There is insufficient

antecedent basis for this limitation in the claim. Also in lines 31-32, the limitation "...the

corresponding n data packets in the aggregate multiplexed signal..." is incomplete and

lacks any meaning within the scope of the claim.

Claim 4 recites the limitation "the selection" in line 1. There is insufficient

antecedent basis for this limitation in the claim.

Regarding **claim 9**, the phrase "such as" renders the claim indefinite because it

is unclear whether the limitations following the phrase are part of the claimed invention.

See MPEP § 2173.05(d).

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the Examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the Examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. **Claims 1-8** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Ge et al.** (U.S. Patent Application Publication # 2002/0057861 A1) in view of **Chang et al.** (U.S. Patent Application Publication # 2002/0146027 A1).

Consider **claim 1**, Ge et al. discloses a routing method for a multiplex system having N inputs each designed to receive one of N input multiplexes (12, figure 1) each having M input channels, each of the channels serving to transport an input packet ([0031], [0032]), and N' outputs each serving to generate one of the N' output

multiplexes (48, figure 1) each made up of output channels each serving to transport an output packet ([0058] lines 5-7), each of the M channels used in the input multiplex (14, figure 1) comprising a data packet associated with an input header serving firstly to identify the packet and secondly to specify at least one output to which it is to be routed ([0031] lines 6-9, [0038]), wherein each of the N' output multiplexes has M+L channels with L ≥ 0 (figure 2B, [0068]), and wherein the method implements the following operations: for the data, multiplexing N input channels each having M multiplexed packets so as to generate an aggregate multiplex signal comprising all of the data packets representing the N input multiplexes (69, figure 1, [0056]); and for each of the N' outputs, providing the inputs of M+L selection chains disposed in parallel with access to the aggregate multiplexed signal (42, 44, figure 1); for the input headers, performing demodulation and decoding (20, control unit, figure 1); and for the headers and the data, selecting from $\underline{n}$ of the M+L (((Nxn)+m), [0068] lines 3-9) selection chains corresponding to the kth output (N^{th} output, [0068]) on the basis of the input headers corresponding to $\underline{n}$ packets that are to be routed to the kth of the N' outputs, and multiplexing these $\underline{n}$ data packets with the corresponding $\underline{n}$ output headers in order to generate the kth output multiplex, where k=1, 2, . . . , N' (48, figure 1, [0038], [0068]), but may not expressly disclose for the output headers, performing encoding and modulation on the basis of the demodulated and decoded input headers.

In the same field of endeavor, Chang et al. discloses for the output headers, performing encoding and modulation on the basis of the demodulated and decoded input headers ([0053], figure 3, [0080], figure 26, [0110]).

Therefore, it would have been obvious to a person of ordinary skill in the art at

the time the invention was made to incorporate encoding and modulating the output

headers as taught by Chang et al. with the method as disclosed by Ge et al. for the

purpose of efficiently and effectively routing data packets.

Consider **claim 2**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses a method wherein L is a non-zero integer ([0065] lines 8-13).

Consider **claim 3**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses the claimed invention as well as a method wherein each of the input

multiplexes comprises data packets and a signalling channel containing headers

(abstract, [0031] lines 6-9, [0038] 1-13), furthermore, Chang et al. also discloses

wherein each of the N input multiplexes is demultiplexed in order to separate the

headers from the data packets (figure 8, [0133] lines 1-8, [0134] lines 12-19).

Consider **claim 4**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses a method wherein said selection comprises: preliminary selection (24,

figure 1) to select from the aggregate multiplexed signal the input multiplex(es)

containing the data packets to be routed to the kth output ([0046] lines 1-4, [0049] lines

3-7); and packet selection (42, figure 1) to select from each of said input multiplexes the

data packet(s) to be routed to the kth output ([0059] lines 6-12, [0072] lines 3-12).

Consider **claim 5**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses a method wherein the aggregate multiplexed signal is generated by

wavelength-division multiplexing for the N input multiplexes, a said wavelength being

allocated to each input multiplex (abstract, [0032], [0033]), and wherein said preliminary

selection implements demultiplexing using said wavelength ([0045], [0046], [0049]).

Consider **claim 6**, and as applied to claim 4, Ge et al., as modified by Chang et

al., discloses a method wherein the aggregate multiplexed signal is generated by

wavelength-division multiplexing for the N input multiplexes (69, figure 1, [0056]), a said

wavelength being allocated to each input multiplex (abstract, [0060] lines 1-10), and

wherein said selection implements first wavelength-division demultiplexing to perform

the preliminary selection ([0044], [0045]), and second wavelength-demultiplexing to

perform said packet selection ([0059]).

Consider **claim 7**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses a method wherein said multiplexing of the selected data packets

implements: wavelength-division multiplexing of the data packets to be routed to the kth

output ([0068]); and wavelength-division multiplexing of the headers corresponding to

said data packets to be routed to the kth output ([0038], [0043]).

Consider **claim 8**, and as applied to claim 7, Ge et al., as modified by Chang et

al., discloses a method wherein the selected data packets and headers are multiplexed

in the output multiplex of the kth output (46, figure 1, [0058], [0061], [0068]).

Consider **claim 9**, and as applied to claim 1, Ge et al., as modified by Chang et

al., discloses a device for implementing the method according to claim 1, the device

presenting: a first system comprising: an N input multiplexing module (34, figure 1) for

receiving and multiplexing the N input multiplexes, each of which comprises up to M

multiplexed packets, and for generating as output said aggregate multiplexed signal (69,

figure 1, [0056]); a distributor circuit (36, figure 1) such as a bus for distributing said

aggregate multiplexed signal to an input of each of N' processing chains each allocated

to one of the N' outputs of the device and each presenting M+L selection circuits in

parallel (figure 2B, [0068], [0069]); and each selection circuit presenting a beam selector

(24, figure 1), a channel selector (24, figure 1), and a channel converter (16 figure 1);

and a second system comprising: a demodulation and decoding circuit (20, control unit,

figure 1) presenting N inputs for receiving the headers corresponding to the data

packets in each of the N input multiplexes ([0031], [0038]) and for demodulating and

decoding said headers; a processor circuit (20, control unit, figure 1) for processing the

demodulated and decoded input headers so that each said selection circuit selects a

packet for routing to the output with which it is associated ([0031], [0038]): a header

generator module (20, control unit, figure 1) for generating, for each output, the output

headers corresponding to each of the n output data packets from said selection circuits

of said output ([0043]); and wherein, for each of said selection circuits, the channel

converter (44, figure 1) presents means for adding to each of said data packets an

output channel identification signal so as to place said n data packets belonging to the

same output on different channels ([0059], [0060]); and wherein the device includes an

output multiplexer module (46, figure 1) for each of said N' outputs of the device to

multiplex the data packets allocated to said outputs with the output headers

corresponding to said packets ([0038], [0068], [0069]), furthermore, Chang et al.

discloses an encoder and modulator circuit (321, figure 3) for encoding and modulating

the output headers generated by the header generator module ([0110], [0111]).

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

Applicant's disclosure.

      a) Lee et al. (U.S. Patent # 6,288,808 B1)

      b) Langer (U.S. Patent # 5,341,369)

10.   Any response to this Office Action should be **faxed to** (571) 273-8300 **or mailed**

to:

      Commissioner for Patents
      P.O. Box 1450
      Alexandria, VA 22313-1450

      Hand-delivered responses should be brought to

      Customer Service Window
      Randolph Building
      401 Dulany Street
      Alexandria, VA 22314

11.   Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Suk Jin Kang whose telephone number is (571) 270-

1771. The examiner can normally be reached on Monday - Friday 8:00-5:00 EST.

      If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's

supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number

for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For

more information about the PAIR system, see http://pair-direct.uspto.gov. Should you

have questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or

proceeding should be directed to the receptionist/customer service whose telephone

number is (571) 272-2600.

Suk Jin Kang
S.J.K./sjk

July 11, 2007

CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600